

Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Specification

The Examiner has objected to the specification for various informalities. By way of the forgoing amendments to the specification, the objections have been rendered moot. Support for the amendments can be found, for example, at page 5, lines 1-4 of the application.

Accordingly, withdrawal of the objection to the specification is respectfully requested.

Claim Rejections - 35 USC § 112

Claims 1-13 stand rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claims 1-6 are rejected for use of the phrase “the steps of” and/or the phrase “further comprising the step of”, wherein these phrases allegedly lack antecedent basis. It is noted that the phrases “the steps of” and “further comprising the steps of”, when used in a claim, are customary phrases used to identify the steps of a method, and it is well excepted that such phrases do not lack antecedent basis. In the interest of advancing prosecution of this application, however, the offending phrases have been removed.

Also, the Examiner rejects claim 5, contending that it is not clear whether “substantially simultaneously” means these steps are performed at the same time. Claim 6 is rejected for similar reasons. It is noted that a determination of whether a relative term meets the requirements of §112, paragraph 2 is based on whether one of ordinary skill in the art would understand what is claimed in light of the specification (See MPEP §2173.05(b)).

It is respectfully submitted that a person of ordinary skill in the art, reading the present application, would understand the meaning of the phrase “substantially

simultaneously” as used in claim 5 and “substantially the same conditions” as used in claim 6.¹

The Examiner also contends that the phrase “test pattern” lacks antecedent basis. It is respectfully submitted that the phrase “the test pattern” as used in the claims has proper antecedent basis. However, in the interest of advancing prosecution, the claims have been amended to recite “the at least one test pattern”.

With respect to claim 13, the Examiner states that the phrase “similar in magnitude” is unclear with regard to the extent of the degree of similarity, and suggests to delete the portion “in magnitude”. The term magnitude is defined in Webster’s New Riverside Dictionary as a number assigned to a member of a set to form the basis of comparison with other members of the same set, or a property that can be quantitatively described. It is respectfully submitted that one skilled in the art, in view of the ordinary meaning of the term “magnitude”, would understand the phrase “similar in magnitude” as used in claim 13. Therefore, claim 13 is believed to meet the requirements of section 112, second paragraph.

With respect to the remaining issues, they have been addressed by way of the amendments to the claims.

Accordingly, withdrawal of the rejection of claims 1-13 is respectfully requested.

Claim Rejections - 35 USC § 102 and § 103

Claims 1, 5-7 and 11-12 stand rejected under 35 USC §102(b) as being anticipated by U.S. Patent Publication No. 2002/0102477 to *Tanaka et al.* (hereinafter *Tanaka*) or, in the alternative, under 35 USC §103(a) as being unpatentable over *Tanaka*. Claims 2-4, 8-10 and 13 stand rejected under 35 USC §103(a) as being unpatentable over *Tanaka* in view of U.S. Patent No. 6,812,999 to *Hickman* (hereinafter *Hickman*) and U.S. Patent No. 6,311,310 to *Tu et al.* (hereinafter *Tu*).

Claims 1-12

Claims 1 and 7 have been amended herein to clarify that the at least one test pattern, which is not covered by the pellicle, is representative of the critical dimension on the photomask.

¹ See, e.g., page 5, lines 1-4 of the application.

Tanaka discloses a photomask that includes a pattern 1a formed on a glass plate GP, wherein a pellicle frame 1g is formed over the pattern 1a. Outside the pellicle frame 1g are several patterns, including a reticle alignment mark 1c, a bar code 1d, a discrimination mark 1e, and baseline adjustment patterns 1f and 1k. *Tanaka*, however, does not teach or suggest a photomask that includes at least one test pattern that is representative of the critical dimension on the photomask, wherein the test pattern is not covered by the pellicle. In fact, *Tanaka* clearly teaches the opposite. Specifically, *Tanaka* teaches that a critical dimension monitor pattern 1h is located under the pellicle 1g.² This is consistent with prior art photo masks as discussed in the present application.³

Clearly, *Tanaka* does not teach or suggest a method of fabricating a photomask that facilitates accurate measurement of a critical dimension on the photomask, comprising projecting a first pattern on a substrate in a first area, projecting at least one test pattern on the substrate outside of the first area, wherein said at least one test pattern is representative of the critical dimension on the photomask, and attaching a pellicle to the substrate, wherein the pellicle covers the first area, but does not cover the at least one test pattern, as recited in claim 1. *Hickman* and *Tu* have not been found to make up for the deficiencies of *Tanaka*. Similar arguments apply to claim 7.

Claims 2-6 and 8-12 directly or indirectly depend from claims 1 or 7 and, therefore, can be distinguished from the cited art for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 1-12 is respectfully requested.

Claim 13

Claim 13 recites a method of monitoring a critical dimension of a photomask including a substrate having a first pattern in a first area, a test pattern in a second area outside of the first area, and a pellicle attached to the substrate which covers the first area but does not cover the second area, wherein a critical dimension of the test pattern is similar in magnitude to a critical dimension of the first pattern. The method includes measuring the critical dimension of the test pattern at a time when the pellicle is attached to the substrate.

² See Fig. 1 and page 4, paragraph [0070] of *Tanaka*.

³ See page 1, line 26-page 2, line 25 and Figs. 1A and 1B of the application.

It is noted that although the preamble of claim 13 recites the location of the test pattern relative to the pellicle, this relative location sets the stage for construing the method of claim 13. (See MPEP §2111.02). That is, the critical dimension of the test pattern, which is not covered by the pellicle, is measured while the pellicle is attached to the substrate.

As noted above, *Tanaka* discloses a photomask that includes a pattern 1a formed on a glass plate GP, wherein a pellicle frame 1g is formed over the pattern 1a. Outside the pellicle frame 1g are several patterns, including a reticle alignment mark 1c, a bar code 1d, a discrimination mark 1e, and baseline adjustment patterns 1f and 1k. None of these patterns, however, are used to monitor a critical dimension on the photo mask. Instead, *Tanaka* discloses that a critical dimension monitor pattern 1h, which is located under the pellicle 1g, is used to measure a critical dimension on the photomask.

Hickman and *Tu* have not been found to make up for the deficiencies of *Tanaka*.

Accordingly, withdrawal of the rejection of claim 13 is respectfully requested.

New Claims

New claims 14 and 15 are submitted for favorable examination.

Conclusion

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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